

**PORCINE FMDV TYPE A ANTIBODY ELISA  
KIT  
MANUAL**

## Porcine FMDV Type A Antibody ELISA Kit

Catalogue Number. IP100179

### **Product Usage**

The Porcine FMDV Type A antibody ELISA Test kit is used for detection of Porcine Foot And Mouth Disease Type A antibody in porcine serum; assessment of immunity conditions against porcine FMD in the pig farm and investigation of the epidemiology of the porcine FMD.

### **Principle**

The Porcine Foot And Mouth Disease(FMD) IgG Type A antibody ELISA test kit is made from the antigen coated microtiter plate(coated with FMD-A-VP1 antigen) and other reagents. It applies the Solid-phase ELISA principle to FMD-A-VP1-Ab in serum, then add enzyme conjugate to specifically bind with complex of coated antigen+FMD-A-VP1-Ab+enzyme labeled anti-pig-IgG antibody on the microplate. With the TMB substrate, it will generate an amount of color. The depth of color is relative with the content of the FMD-A-VP1-Ab, when the value of color is greater than the cut-off value, the pigs are vaccinated well or natural infected exist.

### **Technical specifications**

96 wells × 2.

### **Components**

1	FMD –A Antigen coated microplate	96T X 2	1
2	FMD-A IgG Negative control serum	1.5 mL/tube	2
3	FMD-A -IgG Positive control serum	1.5 mL/tube	3
3	Enzyme conjugate	22ML	3
4	20×concentrated washing solution	50ml	4
5	Substrate A	1 bottle	5
6	Stop solution	12ml	6
7	Sample diluent solution	50 ml	7
8	Adhesive Foil	6 pieces	8
9	Instruction	1 pieces	9

### **Material required not provided**

- 1 Microplate Reader (Dual-wave length: 450/630 nm).
- 2 Microplate Washers.
- 3 Micropipettes, adjustable (Single-wave length 1-100ul、0.5-10ul、 multi-wave length 30-300ul).
- 4 Constant temperature box o r water bath box.
- 5 Oscillators.

- 6 Disposable tips (10ul, 200ul)
- 7 Deionized water

### **Sample requirement**

- 1 The samples are porcine serum, which should be collected with no bacteria. The storage time should be less than 1 week at 2-8 °C, if for long term, it should be kept at -20°C.
- 2 Avoid to use the samples with severe hemolysis, precipitate, contaminated by bacteria or protein suspension.
- 3 The EDTA, heparin sodium and other anticoagulants will not affect the results.

### **Preparation**

1. Bring ELISA reagents to the room temperature (20-25 °C) for 30 min to get best results. Microplate should return to room temperature and dry before open package.
2. Sample dilute: Dilute sample with the sample diluent at 40 times.(5ul serum + 195ul sample diluent), the diluted sample need to mix evenly to get better results.
3. Washing solution preparation: Dilute the 20×concentrated washing buffer with deionized water at 20 times. (50ml 20×concentrated washing buffer + 950ml deionized water ) It is normal if there is crystallization in the 20×concentrated washing buffer, put at 37°C until completely dissolved.

### **Operation procedures**

- 1 Adding sample: Take out the required coated plates according to sample quantity (Can be detached) and record the sample position on a worksheet. For single-wave length test, set one blank control well, add nothing; for double-wave length test, do not set blank control well. Set 2 wells for negative control serum and 2 wells for positive control serum, add undiluted negative and positive control serum to its well accordingly, 100 μL/well. Others are wells for samples, add 100μL/well of Sample diluent solution, then add 1 μL serum sample separately (there will be color change after adding sample).
2. Mix gently for 30s, incubate at 37°C for 30 min.
3. Remove adhesive foil. Pour the liquid out of the wells, add Washing solution(dillute the Wash Concentrate at 20 times with deionized water) into each well fully, stand for 1 min. Repeat 5 times, at last time pat to dry on absorbent paper.
4. Add 100 μL enzyme comjugate into each well (except the blank well, also do not add any liquid to blank well).
5. Cover plate with new adhesive foil. Incubate at 37 °C for 30 min.
6. Repeat step 3(washing).
7. Add 50μL substrate A and substrate 50μL B into each well, mix properly, incubate for 15 min at 37 °C in the dark with new adhesive foil.
8. Add 50μL stop solution into each well, mix gently and determine the result within 5-30 min.
9. For single-wavelength test, measure the A value with a photometer at 450 nm, set zero for the blank well, and read A value of each well; For double-wavelength test, measure the A value with a photometer at 450 nm (Reference-wavelength: 630 nm), read A value of each well.

### **Results**

For the assay to be valid, the positive control wells' average OD value must be greater than or equal to 0.6, and the negative control wells' average OD value is less than 0.1. Otherwise the test is invalid, need test again.

The result is judged by S/P value,

$S/P = \frac{\text{Sample OD}_{450/630} - \text{NCx}(-)}{\text{PCx}(-) - \text{NCx}(-)}$ , NCx(-) means Negative control's average OD<sub>450/630</sub> value, PCx(-) means Positive control's average OD<sub>450/630</sub> value

If  $S/P \geq 0.2$ , it is positive; less than 0.2, it is negative.

### **Precautions**

This test kit is suitable for in vitro diagnostics.

2. Wear glove and working clothes when operate, treat the test kit as containing infectious material.
3. Experiment rubbish should be dealt with high pressure steam sterilization at 121 °C for 30 minutes, or treated with 5.0g/L sodium hypochlorite disinfectant for 30 minutes, then discard.
4. Micro Well plate removed from the refrigerated environment should be balanced moisture to dry at room temperature, and then can be opened. Put back unused MicroWell plate into dry foil bag and sealed at 4 °C. Unused liquid reagent should cover caps, store at 2-8 °C in dark with other group components.
5. If the 20×concentrated washing buffer appears crystal, it is normal, put at 37°C until been dissolved.
6. Should use Micropipette to add sample and reagents, and often proof its accuracy.
7. When adding washing buffer, should be full but no overflow, avoid appearing free enzyme at mouth of well or cross pollution between wells.
8. Stop solution is corrosive, use large amount of water to wash immediately when touch the skin or clothes.

**Storage:** store at 2-8°C, dark, sealed, dry place, no frozen.

**Expiry date:** 12 months; date of production is on box.